

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently Amended) An image processing device for producing an entire image of a subject by joining a plurality of divided images produced from divided portions defined in said subject and having partially overlapping regions, comprising:

a setting portion for setting a plurality of sets each including corresponding points in the two divided images having the overlap regions overlapping with each other;

a transforming portion for performing geometric transformation of one or both of the two divided images based on said plurality of corresponding point sets; and

a joining portion for joining the two divided images based on the plurality of corresponding point sets after the geometric transformation, wherein

a significant overlap region is determined among overlap regions of each image, said significant overlap region is a region where a great number of said divided images overlap with each other, and

said joining portion joins said divided images by placing importance on a specific said significant overlap region where a greater number of said divided images overlap with each other.

2. (Previously Presented) The image processing device according to claim 1, wherein, said setting portion sets in said specific region the corresponding point sets larger in number than those in another region for placing importance on said specific region.

3. (Previously Presented) The image processing device according to claim 1, wherein, said transforming portion performs geometric transformation using the transformation parameter obtained by giving high weight to the corresponding point set in said specific region for placing importance on said specific region.

4-8 (Cancelled)

9. (Currently Amended) An image processing method comprising the steps of: obtaining a plurality of divided images produced from divided portions defined in a subject and having partially overlapping regions; and producing an entire image representing said subject by joining said plurality of produced divided images, wherein

a significant overlap region is determined among overlap regions of each image, said significant overlap region is a region where a great number of said divided images overlap with each other, and

 said joining portion joins said divided images by placing importance on a said significant overlap region where a greater number of said divided images overlap with each other.

10. (Original) The image processing method according to claim 9, wherein said plurality of divided images include at least first, second, third and fourth divided images arranged in upper right, upper left, lower right and lower left positions, and said four divided images overlap with each other in a region defined by a central portion of said entire image.

11. (Cancelled)

12. (Original) The image processing method according to claim 9, further comprising the steps of:

setting the plurality of sets of corresponding points corresponding to each other and located in the two divided images having the overlap regions overlapping with each other; and performing geometric transformation on one or both of said two divided images based on said plurality of corresponding point sets, wherein said two divided images are joined together after said geometric transformation.

13. (Currently Amended) An image processing method comprising the steps of:
obtaining a plurality of divided images produced from divided portions defined in a subject and having partially overlapping regions;
detecting a direction of positional shift between the two divided images having the overlap regions overlapping with each other;
setting a plurality of sets each including corresponding points in said two divided images based on the detected positional shift direction; and

joining said two divided images based on the set corresponding point sets, wherein
for every set of two images that are joined together, said corresponding points are set
based on one of the two divided images located further remotely from a region where at least
three partial images including the other of the two divided images overlap with each other.

14. (Original) The image processing method according to claim 13, wherein
characteristic points corresponding to each other and located in the overlap regions of the
divided images are detected based on the detected positional shift direction, and the detected
characteristic points are set as the corresponding point set.

15. (Original) The image processing method according to claim 14, wherein
the characteristic point is detected in the overlap region of one of said two divided
images, a point corresponding to the detected characteristic point is detected in the overlap
region of the other divided image, and a set of said characteristic points is set as the
corresponding point set.

16. (Original) The image processing device according to claim 14, wherein,
the characteristic points are detected in the overlap regions of said two divided images,
respectively, and a set of the characteristics points corresponding to each other is set as the
corresponding point set.

17. (Currently Amended) A computer readable medium bearing an image processing program, the program, when executed, causing a computer to execute the steps of:

obtaining a plurality of divided images produced from divided portions defined in a subject and having partially overlapping regions; and

producing an entire image representing said subject by joining said plurality of produced divided images, wherein

a significant overlap region is determined among overlap regions of each image, said significant overlap region is a region where a great number of said divided images overlap with each other, and

 said joining portion joins said divided images by placing importance on a said significant overlap region where a greater number of said divided images overlap with each other.

18. (Currently Amended) A computer readable medium bearing an image processing program, the program, when executed, causing a computer to execute the steps of:

obtaining a plurality of divided images produced from divided portions defined in a subject and having partially overlapping regions;

detecting a direction of positional shift between the two divided images having the overlap regions overlapping with each other;

setting a plurality of sets each including corresponding points in said two divided images based on the detected positional shift direction; and

joining said two divided images based on the set corresponding point sets, wherein

for every set of two images that are joined together, said corresponding points are set based on one of the two divided images located further remotely from a region where at least three partial images including the other of the two divided images overlap with each other.

19. (Currently Amended) An image processing device for producing an entire image of a subject by joining a plurality of divided images produced from divided portions defined in said subject and having partially overlapping regions, comprising:

a setting portion for setting a plurality of sets each including corresponding points in the two divided images having the overlap regions overlapping with each other;

a transforming portion for performing geometric transformation of one or both of the two divided images based on said plurality of corresponding point sets; and

a joining portion for joining the two divided images based on the plurality of corresponding point sets after the geometric transformation, wherein

a significant overlap region is determined among overlap regions of each image, said significant overlap region is a region where a great number of said divided images overlap with each other, and

 said joining portion joins said divided images by placing importance on a said significant overlap region which is near the center of a joined image formed by joining all of said divided images.

20. (Currently Amended) An image processing device comprising:

an image obtaining portion for obtaining a plurality of divided images produced from divided portions defined in a subject and having partially overlapping regions;

a detecting portion for detecting a direction of positional shift between the two divided images having the overlap regions overlapping with each other;

a setting portion for setting a plurality of sets each including corresponding points in said two divided images based on the detected positional shift direction; and

a joining portion for joining said two divided images based on the set corresponding point sets, wherein

for every set of two images that are joined together, said corresponding points are set based on one of the two divided images located further remotely from a region where at least three partial images including the other of the two divided images overlap with each other.

21. (Previously Presented) The image processing device according to claim 19, wherein

the corresponding points set by said setting portion include corresponding points separated from each other by a prescribed distance.

22. (Previously Presented) The image processing method according to claim 13, wherein

the corresponding points set by said setting portion include corresponding points separated from each other by a prescribed distance.